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New Birds from Camiguin South, Philippines

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There is an island in the western Mindanao Sea called on the maps simply Camiguin, but we will call it Camiguin South to distinguish it from the island of the same name to the north of Luzon, which we will call Camiguin North as McGregor did in 1909. There has been confusion in the earlier literature.

In 1968 Rabor, as part of his continuing studies, stayed briefly on Camiguin South and made a collection there. Later, in making a preliminary study of the collection, he picked out several species for more study and sent them, along with his notes, to Rand to complete comparisons and descriptions. This paper is a report on four species. Further field work and a complete report on the birds of the island are contemplated.

Camiguin South, in the Mindanao Sea, lies about ten miles north of Mindanao and 50 miles southeast of Bohol. This volcanic island is about 9 by 13 miles in size, with a peak rising to over 5,000 feet. Although heavily populated, there are still forest areas.

Its ornithological history is short. The historic H.M.S. *Challenger* stopped here and sent a party ashore for a few hours on the afternoon of January 26, 1875. The following five species of common, widespread Philippine birds were collected, four of them from second growth and open country, and one a sandpiper: *Corvus macrorhynchus, Aplonis panayensis, Halcyon chloris, Nectarinia jugularis,* and *Actitis hypoleucos* (Tweeddale, 1877, Proc. Zool. Soc. London, p. 536).

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The next ornithological visitor was in 1921 when W. Cameron Forbes, Governor-General of the Philippines, "visited most of the islands of the group." He was accompanied at times by such luminaries as Leonard Wood, Worcester, McGregor, and Celestino. When the collections came to the Museum of Comparative Zoology Outram Bangs, 1922, Bull. Mus. Comp. Zool., **65**, pp. 77–84, reported on the more interesting specimens which included at least two species labeled from Camiguin [South]: *Lalage niger* and two specimens of *"Zosterops forbesi"=Z. everetti basilanica* collected on August 2, 1921. Until Rabor's 1968 work, no other bird work for this area has come to our attention. Rabor plans more work for 1968–69.

Four species are discussed in this paper: *Hypsipetes everetti, Hypothymus azurae, Dicaeum trigonostigma,* and *Zosterops nigrorum,* each with new subspecies—five in all.

Hypsipetes everetti

Delacour, *in* Delacour and Mayr, 1945, Zoologica, **30**, p. 112; Delacour, *in* Delacour and Mayr, 1946, Birds of the Philippines, p. 176; Rabor, 1955, Silliman Jour., **2**, p. 103; Rand and Rabor, 1959, Auk, **76**, pp. 102–104; Deignan, 1960, Peter's Check-list of Birds of the World, **9**, p. 288; deSchauensee and duPont, 1962, Proc. Acad. Nat. Sci. Phila., **114**, p. 163.

The treatment of the species limits of *everetti* and its naar relatives in the Mindanao area has changed several times in recent decades. This has resulted from the progressive increase in our knowledge of the ranges of the forms involved, an increase due to the progressive field work, especially that of Rabor, in Mindanao.

Basic was the discovery that *philippinus* did not range over all western Mindanao (Rabor, 1955, *contra* Delacour, 1946), and that both *everetti* and *philippinus* from the east, and *rufigularis* from the west, all met in the Lake Lanao area of western central Mindanao (Rabor, 1955; Rand and Rabor, 1959; deSchauensee and duPont, 1962).

Obviously, *rufigularis* cannot be conspecific with either *everetti* (*contra* Delacour, 1946) nor with *philippinus* (*contra* Rand and Rabor, 1959; Deignan, 1960).

Rabor, 1955, suggested that *rufigularis,* the only *Hypsipetes* of western Mindanao and Basilan was not monotypic but conspecific with *haynaldi* of the Sulu islands as the only *Hypsipetes* occurring there. This last is a form that is somewhat intermediate in appear-

ance between the yellow-olive *everetti* and the brown-tawny, white-bellied *rufigularis*, even if it is not intermediate geographically.

However, the discovery of another dark race of *everetti* on the isolated island of Camiguin South (where it is the only *Hypsipetes*), adds weight to keeping the dark *haynaldi* also in *everetti*, leaving *rufigularis* monotypic.

The following arrangement seems preferable:

H. philippinus; Luzon to eastern and central Mindanao; several races.

H. rufigularis; western central Mindanao west to Basilan; monotypic.

H. everetti; Samar to eastern and central Mindanao; also Sulu islands and Camiguin South; four races, see below.

Hypsipetes everetti samarensis Rand and Rabor

Range.—Samar and Leyte; probably Panaon birds are the same.

Diagnosis.—Upperparts predominantly olive green, crown little different but with lighter lanceolate tips to some feathers: throat buffy ochraceous (deep tawny) breast olive-tinged tawny; lower breast and abdomen yellow; flanks, yellowish olive.

Wing ♂ (10) 113–121 (av. 117 mm.); ♀ (10) 105–115 (av. 110.8 mm.); culmen ♂ (10) 28–31 (av. 29.9 mm.); ♀ (10) 27—28 (av. 27.7 mm.).

Hypsipetes everetti everetti Tweeddale

Range.—Dinagat and east and central Mindanao west to Lake Lanao area.

Diagnosis.—Like *samarensis* but upperparts brighter, clearer green (less golden or olive green); throat and upper breast brighter ochraceous; lower breast and abdomen being brighter, clearer yellow, and in flanks being less heavily washed with olive.

Wing ♂ (6) 118–125 (av. 122.3 mm.); ♀ (6) 112–118 (av. 114.8 mm.); culmen ♂ (6) 28–31 (av. 29.3); ♀ (6) 26–30 (av. 27.3 mm.).

Remarks.—There is considerable variation in Mindanao birds, and this results in an overlap with Samar and Leyte series.

Hypsipetes everetti haynaldi Blasius

Range.—Sulu Archipelago (Sulu and Tawi Tawi Islands).

Diagnosis.—Like *everetti* in having crown about like back, but differs in upperparts being considerably duller, darker, more brownish olive; in the throat and upper breast being darker and duller brownish without tawny tinge, and flanks deeper olive; also wing shorter (but not bill).

Wing ♂ (6) 107–116 (av. 110 mm.); ♀ (6) 107–112 (av. 109 mm.); culmen ♂ (6) 27–29 (av. 28 mm.); ♀ (6) 27–30 (av. 28 mm.).

Remarks.—This is a well-marked, but not a strikingly different race. I have to thank Dr. R. L. Zusi of the United States National Museum for the loan of the 12 Sulu Archipelago specimens. They were collected in September–November, 1891 by Worcester and Bourns.

Neither this form nor *everetti* is known from Basilan or western Mindanao where its place is taken by *H. rufigularis* of which it appears to be the ecological equivalent.

Hypsipetes everetti catarmanensis, new subspecies

Type.—Field Museum Natural History no. 284,445 from Camiguin South Island, Catarman Mt. between 2,000 and 4,000 feet. Adult male collected June 16, 1968 by D. S. Rabor.

Diagnosis.—Differs from the above three races in having the crown brownish black contrasting sharply with the rest of upperparts; differs in rest of upperparts being considerably darker greenish olive, in the darker brownish breast, in the darker olive flanks, and in larger size.

Wing ♂ (9) 126–136 (av. 129 mm.); ♀ (10) 118–124 (av. 121.9 mm.); culmen ♂ (9) 32–34 (av. 32.8 mm.); ♀ (10) 29–31 (av. 30 mm.).

Range.—Camiguin South Island.

Hypothymis azurae

Mayr, 1945, Zoologica, **30**, p. 113; Parkes, 1965, Ann. Carnegie Mus., **38**, pp. 61–62.

The range of this species is from India to Formosa and south through Malaysia to Java, Flores, and the Philippines. There is a geographical representative species, *H. puella* in Celebes, and in the Philippines are two other, very distinct species, endemic, rare, and of limited distribution. In the Philippines, including the Palawan group and Sulus, the subspecies *H. a. azurae* is common and widespread in lowland and mid-altitude forests, and recorded on 30 is-

lands by McGregor. Minor variation in shade of color and extent of pattern have been pointed out by Mayr and Parkes, but not of subspecies rank.

The widespread Philippine subspecies is blue with abdomen and flanks white and with band on forehead, broad patch on nape, and narrow collar on upper breast black. The female differs in having upperparts dull olive brown, breast greyish, and in lacking black marks.

The new collection from Camiguin South yielded eight specimens of this species that indicate a unique population, worthy of subspecies designation.

Hypothymis azurae catarmanensis, new subspecies

Type.—Field Museum of Natural History no. 284513 from Catarman Mountain, 4,950 feet, Catarman, Camiguin South Island, Philippine Islands. Adult female, collected June 20, 1968 by D. S. Rabor.

Diagnosis.—Male like that of *H. a. azurae* in general pattern but with blue parts of plumage deeper and more purplish blue; also black area on nape reduced in size (absent in 1 of 3 specimens). Wing, 70, 73, 75; tail, 69, 76, 77; culmen, 16, 16, 17 mm.

FEMALE (4 of 5 specimens).—Strikingly different from that of *H. a. azurae* in having the back and wings and tail blue, not brown, and in having the throat and breast deeper blue. In effect, these females look like rather dull, paler males, without the black throat band and without the black nape patch. Wing, 71, 71, 73, 76; tail, 68, 70, 70, 72; culmen, 16, 16, 17, 17 mm.

FEMALE (1 of 5 specimens).—Like female of *H. a. azurae* but part of back with a bluish tinge (not olive brown), upper wing coverts blackish, glossed purplish blue (not brownish) and outer edges of wing quills and tail quills with a bluish tinge (not brownish). (On immature plumage only?) Wing, 74; tail, 72; culmen, 16 mm.

Wing length from various localities:

H. a. azurae

Negros	♂ 68–74	♀ 67–70 mm.
Siquijor	♂ 72–75	♀ 70–73
Bohol	♂ 67, 69, 70	♀ 66–68
Samar	♂ 65–70	♀ 63–68
Mindanao	♂ 67–70	♀ 64–69

H. a. catarmanensis

Camiguin South ♂ 70–75 ♀ 71–76 mm.

Range.—Camiguin South; lowlands to 4,950 feet on peak of Mount Camiguin.

Remarks.—For comparison we have large series of *H. a. azurae* from Luzon, Negros, and Mindanao, moderate series from Palawan, Bohol, Siquijor, Samar, Cebu, and one or a few specimens from each of Polillo, Sibuyan, Romblon, Mindoro, Guimaras, and Basilan. Males and females are about equally represented in all these series, every blue-backed bird has the black nape patch, usually of considerably greater extent than in that of the Camiguin South birds with the largest patch. The size of the black throat band is variable, rarely absent. All the females have brown backs (of various shades of brown or greyish-brown).

There is always a possibility of some mis-sexing of specimens in the field, but the blue-backed females from Camiguin South are not like any specimens, male or female, from any other islands.

The following tentative conclusions are advanced.

There is a reduction in sexual dimorphism through the female becoming partly cock-feathered, notably in the blue back, and the male becoming more like this new type female through the partial loss of the black nape patch.

There is an indication, from this collection, that the female may be dimorphic, most (4 out of 5) are much like dull males but without black markings; a few (1 out of 5) are more like the female of *H. a. azurae.* However, this may be an earlier plumage, special to the immature female in this population.

There are two other species of the genus in Philippines: *H. helenae,* Camiguin North, Luzon (series Field Museum), Samar, Mindanao; and *H. coelestis,* Luzon, Negros, Sibuyan, Dinagat, Mindanao, Basilan; and neither is known to occur on Camiguin South. One may be tempted to consider the possibility that this absence has allowed sexual dimorphism to decrease. But, there are other islands in the Philippines, with only *H. azurae;* and over most of the range of *H. azurae* it is the only representative of the genus. Birds from Nepal have the same male and female mode of plumage as do those of *H. a. azurae* of Philippines.

Dicaeum trigonostigma

Salomonsen, 1960, Amer. Mus. Novit., No. 1991, pp. 28–37.

This is a widespread species presumably originating in the Philippines (though absent from Palawan) where Salomonsen recognized nine subspecies, most of them with striking and clear-cut characters. In all the rest of the range (Java and Borneo to Assam), only five subspecies have developed and most of them with rather trivial characters. Five of the nine subspecies recognized in the Philippines are small island subspecies: on Romblon and Tablas (*intermedium*); Sibuyan (*sibuyanicum*); Siquijor (*besti*); Jolo, Tawi-tawi, Siasi (*assimile*); and Sibutu (*sibutuense*). An additional subspecies proves to have been developed on Camiguin South, raising the number of Philippine subspecies to ten, and six of them small island subspecies.

The near relatives of the Camiguin South form seem to be the geographically adjacent *cinereigularae* of Mindanao–Samar–Leyte–Bohol area, and *besti* of Siquijor, and it is with these that comparison is needed, differing as they do chiefly in color of chin and throat, and in size.

Dicaeum trigonostigma besti Steere

Diagnosis.—Male, chin and upper throat yellow; rest of throat and sides of neck uniform grey, without a yellow wash. Size, small. Male, wing (10), 50–53 (av. 51.8 mm.); culmen (10), 13–14 (av. 13.3 mm.).

Dicaeum trigonostigma cinereigulare Tweeddale

Diagnosis.—Male, chin and upper throat yellow; lower throat and side of neck grey washed with yellow. Size, small.

	wing	culmen
Samar, male	(10) 50–52 (av. 51)	(10) 11–13.5 (av. 12.4)
Bohol, male	(4) 49–52 (av. 50)	(4) 12–13 (av. 12.5)
Mindanao, male	(10) 49–52 (av. 51.2)	(10) 12–13.5 (av. 12.7)

Dicaeum trigonostigma isidroi, new subspecies[1]

Type.—Field Museum of Natural History no. 284521 from Kasangsangan, Catarman, Camiguin South Island, Philippine Islands. Adult male collected June 11, 1968, by D. S. Rabor.

Diagnosis.—Like both of the above subspecies but differs in the male having the chin and upper throat much paler yellow; in having

[1] This new race is named in honor of Dr. Antonio Isidro, president of Mindanao State University, and in appreciation of his great interest in biological research.

the lower throat pale, whitish grey (without any yellowish wash) becoming darker toward the sides of the throat; size larger. Wing ♂ (10), 55–57 (av. 55.6 mm.); culmen (10), 13.5–15 (av. 14 mm.).

Range.—Camiguin South Island, 1,000–2,500 feet altitude.

Remarks.—Most races of this species in Philippines have wing 48–53 mm.; but there are two larger subspecies, the present one (see above) and *sibuyanicum* wing 54–57 mm., both small island species.

Zosterops nigrorum

Mees, 1957, Zool. Verh. Rijk. Mus. Nat. Hist. Leiden, No. 35, pp. 160–170; Mayr, 1967, Peter's Check-list of Birds of the World, **12**, pp. 299, 300.

This is the only species of *Zosterops* in the Philippines that has completely yellow underparts. It is a species of large and small islands: large islands in the north, and the western central islands—Luzon, Mindoro, Masbate, Panay, and Negros; a very few scattered small islands—Camiguin North (north of Luzon); and a few small islands in the central Philippines with southern outposts on Cagayancillo (west of Negros, in Sulu Sea) and Camiguin South in Mindanao Sea.

The relationships of this species are not clear, but the general appearance of the various subspecies, and their differences from other species, in appearance and range, seem to indicate a natural group, forming an endemic Philippine species, as treated in recent revisions.

Up until now the known ranges of the related *everetti*, with underparts partly grey or white as well as yellow, and *nigrorum* have been allopatric. However, on Camiguin South Rabor found both species, *everetti* at low altitudes and *nigrorum* at higher altitudes. This is the only locality where both species occur. (It may be recalled that the old records of *Z. everetti siquijorensis* for Negros are in error, surely due to a mis-identification of specimens of *Z. montana pectoralis*.)

Seven subspecies of *Z. nigrorum* are recognized in the following, and are arranged in three groups.

Group I.—Four races, generally bright to moderately bright in coloration; eye ring complete; little or no black or dusky in side of head; size smaller; wing ♂ 50–56 mm.

Zosterops nigrorum meyleri McGregor

Range.—Camiguin North.

Diagnosis.—A small race, separable from all other races by wide, complete eye ring, especially wide below the eye, according to Mees

whose scant material was variable in color. His pen and ink drawing of head indicates a short dusky streak below white eye ring only.

McGregor, 1908, Manual Philippine Birds, pp. 618–619, says this race is similar to *richmondi* but lacks the black under eye and has eye ring wider.

Wing (4), 53.5–56 (av. 54.4); culmen (4), 12.8–13.8 (av. 13.2 mm.). (Mees) no specimens seen.

Zosterops nigrorum aureiloris Ogilvie Grant

Range.—Northwestern Luzon, south certainly to Mountain and Abra Provinces and Benguet; farther south intergradation with the next two races to be expected; also on Mindoro; sea level to 5,000 feet.

Diagnosis.—A small, brightly colored race, complete eye ring, with, at most, a dusky smudge below it; loral area and a narrow area on forehead golden yellow and sharply contrasting with rest of upperparts; upperparts bright yellowish olive green; underparts bright yellow with flanks lightly tinged olive.

Male, wing (10), 49–56 (av. 53.0); culmen (10), 11–13.5 (av. 12.3 mm.).

Remarks.—Series from Ilocos Norte, Abra, and Mountain provinces. Collected by Rabor, in Field Museum of Natural History.

Zosterops nigrorum sierramadrensis new subspecies

Type.—Field Museum of Natural History no. 259880 from Luzon Island, Cagayan Province, Gonzaga, Mt. Cagua (in the Sierra Madre), 2,000–4,000 feet altitude. Adult male collected April 30, 1960.

Diagnosis.—Like *aureiloris* of northwestern Luzon, but upperparts darker, less yellowish, forehead darker yellow usually with an ochraceous tinge; underparts deeper yellow on the throat, and with more of an olive wash on breast and flanks; bill slightly longer. Thus, a more intensely colored, darker race.

Wing ♂ (10), 50–54 (av. 51.2 mm.); culmen (10), 12–14 (av. 13.1 mm.).

Range.—Northeastern Luzon in Cagayan Province. Presumably ranges southward to intergrade with the next race in central Luzon.

Remarks.—Series from Cagayan Province in Field Museum of Natural History. This is an additional example of northwestern and northeastern Luzon birds representing different subspecies, as

discovered by Dr. Rabor's field work in 1959 and 1960. (See Rand and Rabor, 1967, *Fieldiana:* Zool., **51**, pp. 85–89.)

The moderately well-marked characters of this new race show very plainly in series, and there is little trouble in allocating most individual male specimens from Ilocos Norte Mountain and Abra specimens on the one hand, and Cagayan specimens on the other. Females are duller.

The earlier lack of recognition of this northeastern subspecies was due to lack of adequate material, and there is the probability that central Luzon, easily reached by collectors, may be where three subspecies merge.

Zosterops nigrorum luzonica Ogilvie Grant

Range.—Southern Luzon; probably meeting and intergrading with the above two races in central Luzon.

Diagnosis.—Like *sierramadrensis* but differs most notably in the much less, and paler yellow in the forehead and lores. There is also a better developed dark line below the eye ring and average slightly richer yellow below, and a slightly clearer green above.

Wing ♂ (10), 50–56 (av. 52.8); culmen ♂ (10), 13–14 (av. 13.3 mm.).

Remarks.—Series from Camarines Sur and Sorsogon of extreme southern Luzon.

Again, material has been scarce in collections from southern Luzon. For example, in 1957 Mees had seen but two specimens.

GROUP II.—One race; dull; eye ring interrupted by black spot in front; black line in lower lores—below eye ring area definite and distinct; size medium, wing, ♂ 54–58 mm.; culmen, 13–14 mm.

Zosterops nigrorum nigrorum

Range.—Masbate, Caluya, Ticao, Cresta de Gallo, Panay, Negros.

Diagnosis.—Differs from all three Luzon races in the white eye ring being interrupted in front by a black spot and the black line below the eye ring being better developed, in the underparts being much colder, duller yellow and the much more extensive and heavier greyish olive wash over breast and sides of body; size slightly larger.

Wing ♂ (10), 54–58 (av. 55.6); culmen (10), 13–14 (av. 13.6 mm.).

Remarks.—Field Museum of Natural History has a good series of Negros birds (Rabor collection). Mees (loc. cit., p. 164) found no

differences between populations from Negros, Panay, and Masbate. Field Museum also has two specimens from Ticao (McGregor and Celestino collection) which agree with Negros birds on the main characters, although differ somewhat in shade of general coloration. Wing, ♂ 58, ♀ 57 mm.; culmen, 13–14 mm.

The habitat on Negros is the rain forest and second growth.

GROUP III.—Two races, bright, eye ring incomplete, interrupted by black spot in front; black below eye ring distinct; size larger; wing, 57–62 mm.; culmen, 14–16 mm.

Zosterops nigrorum richmondi McGregor, 1904

Range.—Cagayancillo Island (Cagayan Islands), in the Sulu Sea.

Diagnosis.—Like *nigrorum* in the pattern of the side of the head with black spot interrupting eye ring in front and confluent with the distinct black line below lores and eye ring. Differs from *nigrorum* in larger size, in upperparts much lighter and more yellow green; in whole underparts being much brighter more intense yellow, with reduced olive tinge in flanks.

Wing, ♂ 58, ♀ 59; culmen, 15, 15 mm.

Remarks.—Known only from Cagayancillo (now called Cagayan), the largest (5 miles by 1 mile) island of the Cagayanes group west of Negros and about 70 miles southwest of Panay, the nearest island. The habitat is described by McGregor, 1904, Bull. Phil. Mus., No. 3, p. 5: the island reaches several hundred feet altitude: surface, coral rock; vegetation scanty, coconut palms along shore, occasional mangoes, small clumps of bamboo, some mangrove, various shrubbery, trees, masses of rank grass and tall weeds; no streams, little marsh. This *Zosterops* was very common throughout.

Zosterops nigrorum catarmanensis new subspecies

Type.—Field Museum of Natural History no. 284585 from Catarman Mountain, Catarman, Camiguin South Island; 2,000–4,500 feet altitude. Adult male collected June 20, 1968 by D. S. Rabor.

Diagnosis.—Like *nigrorum* and *richmondi* in having the white eye ring interrupted anteriorly by a black spot confluent with the black line below lores and eye ring; like *richmondi* in large size; differs from *richmondi* in the brighter, clearer green of upperparts; in yellow of super-loral being clearer, brighter yellow, and in yellow of underparts being much brighter and clearer.

Male, wing (7), 57–62 (av. 60); culmen (6), 14–16 (av. 14.6 mm.).

Range.—Camiguin South in Mindanao Sea, between 2,000 and 5,700 feet altitude.

Remarks.—In the yellow of the underparts *catarmanensis* is very similar to *aureiloris* of northeastern Luzon, although the green of the upperparts is slightly brighter, clearer green; and, of course, there is the difference in size and in the loral area.